

## ABSTRACT

A highly deacetylated chitosan obtained from microbial biomass, a method of obtaining chitosan from microbial biomass, and biomass for making chitosan are disclosed. The method includes providing chitin-containing biomass; reacting the  
5 chitin-containing biomass in a caustic solution of greater than 25 percent alkali at a reaction temperature greater than 95° C for a reaction period of at least 10 hours to convert the chitin in the biomass to chitosan; and separating the chitosan from the caustic solution.